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(58) Field of search
F4W

(54) Gas fires

(57) A live fuel effect gas fire comprises a bed of artificial fuel (4, 5, 6) positioned above a combustion chamber into which fires a gas burner whose flames impinge on parts of the fuel to bring them to incandescence. Electric lamps (18) positioned at each end of the fuel bed are located behind transparent material (17) to illuminate the chamber when the fire is not in use to give a visual impression of fuel combustion. In another embodiment, the gas fire has radiants instead of the bed of artificial fuel. The radiants can be illuminated from above and/or below as well as or instead of from the sides.

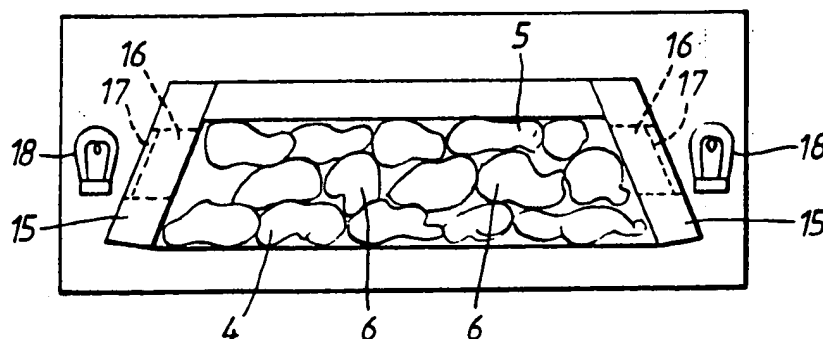


Fig. 2.

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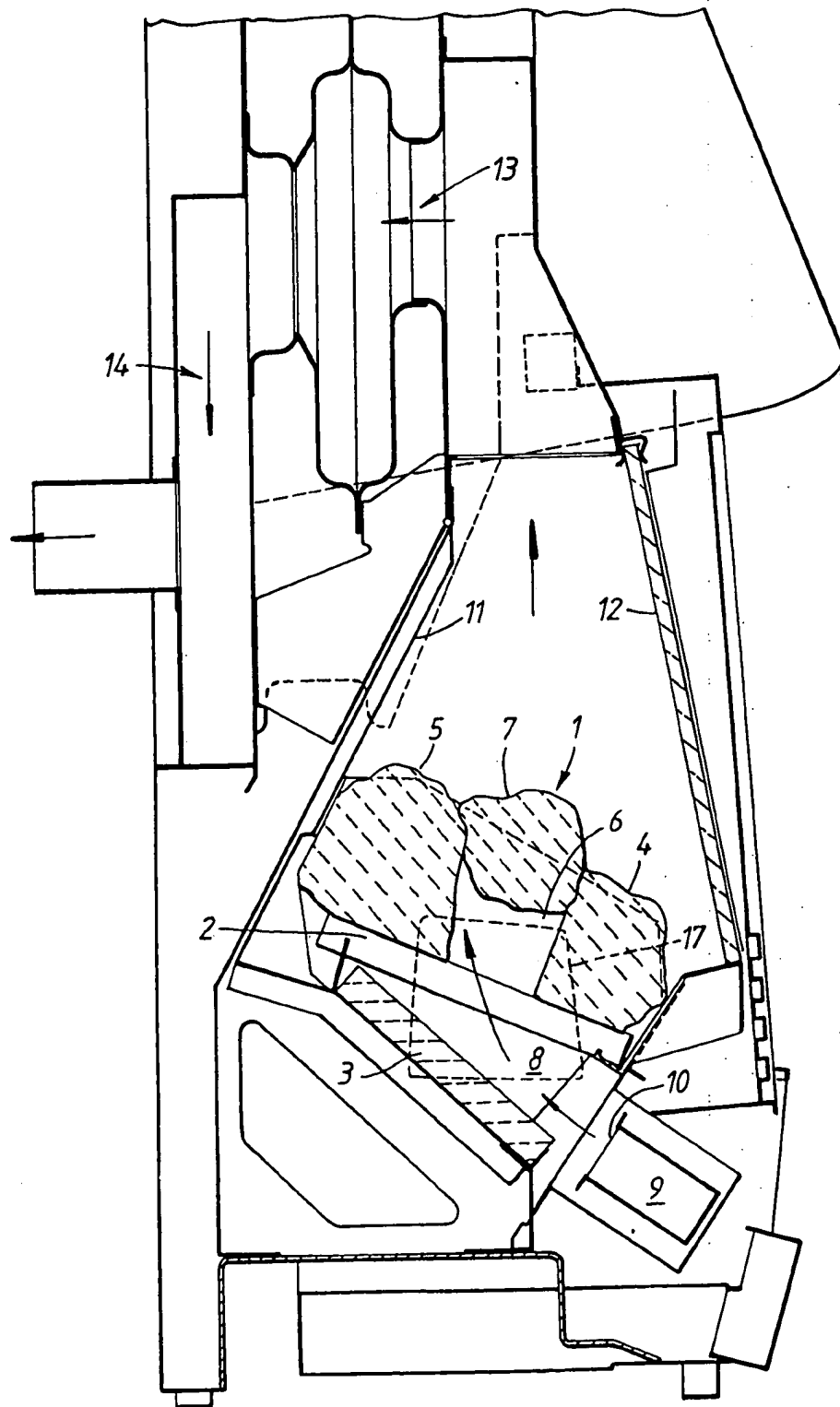


FIG. 1.

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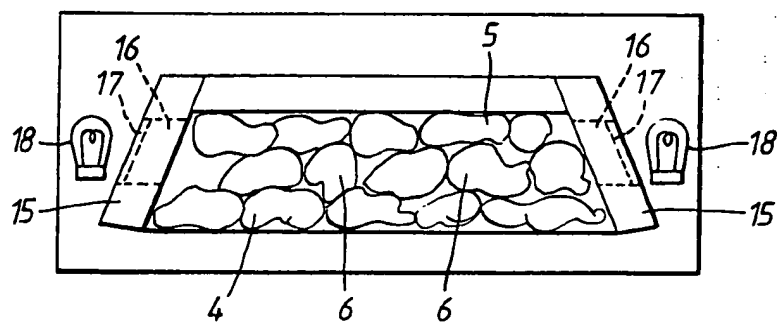


FIG. 2.

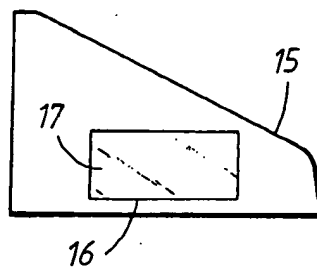


FIG. 3.

SPECIFICATION

Improvements in or relating to Gas Fires

- 5 This invention relates to gas fires and has particular reference to that class of gas fire in which visible heat radiating surfaces are heated by a gas burner.

- One form of such fire is the live fuel effect
10 gas fire which comprises a bed of fuel of simulated coal or log form made for example of a ceramic material readily heated to incandescence by a gas burner whose flames heat the fuel from beneath. The fires have a 'natural'
15 appearance closely resembling a real coal or log fire when in use but tend to look 'cold' or 'dead' when the fire is not in use particularly against a background of subdued lighting.

- 20 Another form of gas fire to which the invention applies employs the conventional radiants. Such radiants are usually of a white ceramic material which, whilst not completely unattractive in appearance, does to some extent convey a 'dead' or 'cold' impression
25 when the fire is not in use.

It is an object of the present invention to provide a means of overcoming the problem just mentioned.

- 30 According to the present invention, a gas fire includes means for illuminating part at least of the heat radiating surface or surfaces.

- Such means are brought into use when the fire itself is not being used to generate heat
35 but may be such that it is possible to illuminate the surface or surfaces when the fire is in use.

- The illuminating means may be located above the surface or surfaces or below. The
40 means may be accommodated within the structure of the fire or may be located on the external surface of the fire.

- Thus, the invention also comprises means for illuminating part at least of the heat radiating surface or surfaces from above and/or
45 from below.

Further, according to the invention, a live fuel effect gas fire includes means for illuminating part at least of the fuel bed.

- 50 Illumination may be effected by one or more light sources located above and/or below the fuel bed.

- In another aspect of the invention, a live fuel effect gas fire includes means for illuminating the fuel bed from beneath in such
55 manner as to create a visual impression of fuel combustion.

- In one particular embodiment, there is a combustion chamber located beneath the fuel bed and the illuminating means is so arranged
60 as to illuminate the combustion chamber. The gas burner of the fire is arranged to fire into the combustion chamber.

- In one embodiment of the invention, the
65 fuel bed is positioned between its lower side by the

least one of which is apertured to permit illumination of the combustion chamber.

- The or each aperture is closed by a sheet of transparent heat resistant glass or other material and the or each lamp is disposed on that
70 side of the sheet remote from the fuel bed.

- When illumination from above is employed, one or both of the side walls bounding a space above the fuel bed may be apertured,
75 or be optically-transparent or translucent in whole or in part to transmit light from a light source or sources behind the or each side wall.

- Another location for the light source is behind an aperture in the rear wall of the space or behind an optically transparent or translucent part of the rear wall.

- Where an aperture or apertures is or are employed, a shield or closure of an optically transparent or translucent, heat-resistant material is located in or across the or each
85 aperture.

- In a further aspect, the invention comprises a gas fire with visible heat emitting radiants and means for illuminating part at least of the
90 radiants.

- The illuminating means may comprise a light source located above and/or below the radiants and/or on one or both sides of the
95 latter.

- The gas fire may include front panels of a decorative optically transparent or translucent material with a light source or light sources behind them and so orientated as to enable
100 light to fall on the radiants.

By way of example only, embodiments of the invention will now be described in greater detail with reference to the accompanying drawings of which:

- 105 *Figure 1* is a vertical section through the middle of the embodiment,

Figure 2 is a plan view in schematic form only of part of the embodiment, and

Figure 3 is an end view of a component.

- 110 The first embodiment shown in the drawings comprises a live fuel effect gas fire in which a visible bed 1 of simulated ceramic fuel contoured and coloured to resemble lumps of coal is supported upon ceramic rods
115 2 spaced across the side-to-side dimension of the bed. The rods 2 are supported by the internal structure of the gas fire above an inclined floor 3 of ceramic or ceramic-fibre material. The rods 2 lie in a plane inclined
120 somewhat less steeply than the floor 3 and which meets the floor 3 along its back edge—the left hand edge as seen in Fig. 1. However, other arrangements are possible.

- The bed 1 comprises a front row 4 of fuel of unitary form spaced from a back row 5 of fuel also of unitary form by a passage 6 bridged by spaced elements of fuel one of which is indicated at 7.

There is thus provided a combustion cham-

floor 3, along its rear by the back row 5 and having an open side along which is positioned a gas burner 9 having several longitudinally-spaced sets of gas ports formed in its upper surface 10. The burner 9 is orientated so that its flames project into the combustion chamber 8 and are deflected upwardly into the passage 6 as indicated by the arrows in Fig. 1.

- 10 The products of combustion pass upwardly into a space above the bed 1 bounded by an upwardly and inwardly sloping back wall 11 which may be reflective, an upwardly and inwardly sloping panel 12 of transparent, heat-resisting glass through which the bed 1 is visible, and side walls.

From the space, the products of combustion enter a heat exchanger 13 and are discharged into a suitable chimney or flue (not shown) via a flue break 14.

- 20 In use, flames from the gas burner impinge on parts of the bed 1 and bring them to incandescence thereby simulating a coal fire both in appearance and in the generation of radiant heat.

The bed 1 is located between end firebricks or walls 15 (Fig. 2) each of which has an aperture 16 aligned substantially with the combustion chamber 8. Each aperture is closed by a sheet 17 of transparent heat resisting glass on that side of which remote from the array 1 is located an electric lamp 18. The lamps may be of the so-called 'pigmy' size and the glass envelopes are orange or red-coloured. The lamps are orientated in a vertical position as shown.

- 35 When the fire is not in use, the lamps 18 are lit and provide illumination of the combustion chamber sufficient to impart a coloured glow within that chamber and beneath the bed 1 and the visual impression that the fire is in use. The 'cold' or 'dead' look of the fire is thereby eliminated. That effect may be enhanced by suitable colouring of the fuel surfaces.

Other locations for the lamps other than that described above are possible in dependence upon the construction and design of the fire and of the bed 1 and the way the latter is supported.

- 50 Associated with the lamps may be a device or devices for producing a 'flicker' effect.

It is also possible to employ the lamps in gas fires employing ceramic logs or shapes resembling other forms of fuel for example pine cones.

- 55 It will be appreciated that the lamps can be energised at will by a user by means of a control switch, but alternatively, the lamps may be switched-on automatically whenever the gas supply to the burner is turned off by the user.

In another embodiment of the invention, the heat radiating surfaces are those of the conventional visible radiants and may be arranged

face combustors. The appearance of such radiants when 'cold' can also be made visually more attractive by illuminating them.

- One or more electric lamps may be located within the structure of the fire to shine upon the radiants from above the latter or below or from one side or the other or from both sides. The lamps may be protected from the adverse effect of heat from the radiants by the use of heatresistant optically transparent sheets rather in the manner described above with respect to the embodiment shown in the drawings. Thus, the side walls and/or the back wall of the space in which the radiants are mounted may be apertured and/or partially at least optically transparent or translucent.

Alternatively, the fire may include, on each side of its front adjacent the radiants, an optically transparent or translucent panel which may have surface decoration. In that case, the illuminating means may be disposed behind the panels which are so orientated as to allow light from the illuminating means to fall upon the radiants.

- 90 Again, the illuminating means may include a device or devices for producing a flicker so simulating more closely the visual effect of a flame.

95 CLAIMS

1. A gas fire having means for illuminating the heat radiating surface or surfaces.
2. A gas fire having means for illuminating the heat radiating surface or surfaces when the fire is not in use.
3. A gas fire having a visible heat radiating surface or surfaces and means for illuminating the surface or surfaces.
4. A gas fire as claimed in any one of the preceding claims in which the illuminating means illuminate the surface or surfaces from above or from below or both and/or from one side or the other or both sides.
5. A gas fire as claimed in any one of claims 1-4 in which the illuminating means is accommodated internally of the structure of the gas fire.
6. A gas fire as claimed in any one of claims 1-5 in which further means are provided for imparting a "flicker" to the illuminating.
7. A live fuel effect gas fire comprising a fuel bed, a gas burner for heating the bed, and means for illuminating the bed from above and/or below, and/or from one side or the other side or from both sides.
8. A live fuel effect gas fire comprising a fuel bed, a gas burner for heating the bed and means for illuminating the fuel bed from beneath in such manner as to create the impression of fuel combustion.
9. A gas fire as claimed in claim 8 and having a combustion chamber located beneath the bed, the gas burner firing into the combustion chamber, and in which the illuminating means are located within the structure of the fire to shine upon the radiants from above the latter or below or from one side or the other or from both sides.

nating means is so arranged as to illuminate the combustion chamber.

10. A gas fire as claimed in claim 9 in which the fuel bed is positioned between end walls at least one of which is apertured to permit the illumination means to illuminate the combustion chamber.

11. A gas fire as claimed in claim 10 in which the or each aperture is closed by a member of optically transparent or translucent, heat-resistant material.

12. A gas fire as claimed in any one of claims 7-11 and comprising further means for imparting a "flicker" to the illumination.

13. A gas fire as claimed in claim 7 in which a space above the bed is bounded by side and back walls at least part of one or more of which is optically transparent or translucent to permit illumination of the bed.

14. A gas fire as claimed in claim 13 in which one or more of the walls is or are apertured, and in which a member of optically transparent or translucent heat resistant material is located in or on the or each aperture.

15. A live fuel gas fire substantially as herein described with reference to and as illustrated by the accompanying drawings.

16. A gas fire comprising one or more radiants, a gas burner for heating the radiants, and means for illuminating the radiants.

17. A gas fire comprising one or more radiants visible from the front of the fire, a gas burner for heating the radiants, and means for illuminating the radiants.

18. A gas fire as claimed in claim 17 in which the illuminating means illuminates the radiants from above or from below or both and/or from one side or the other or both sides.

19. A gas fire as claimed in claim 18 in which the radiants are located in a space having side and back walls at least one of which is adapted to transmit light from the illuminating means on to the radiants.

20. A gas fire as claimed in claim 19 in which one or more of the walls is apertured to transmit said light.

21. A gas fire as claimed in claim 19 in which part at least of one or more of the walls is optically transparent or translucent to transmit said light.

22. A gas fire as claimed in any one of claims 16-21 in which further means are provided for imparting a "flicker" to the illumination.

23. A gas fire as claimed in any one of claims 16-22 substantially as herein described.